

REMARKS

Claims 1-21, 34, 35, and 40-50 are pending. Claims 22-33 and 36-39 are canceled.

1. Claims 5, 11, and 17 were considered objectionable for use of trademarks. Claims 5, 11, and 17 are amended to remove the trademarks.

2. Claims 1-21, 34, 35, and 40-50 were rejected under 35 U.S.C. §103(a) as being unpatentable over Erickson (US 2,839,651) or Uemura (JP 9-215605), in view of Guiles et al. (US 6,056,844) or Stark et al. (US 2002/0113066 A1). This rejection is respectfully traversed for the following reasons.

Claim 1 is directed to a heating belt including a flexible support coated with a composite material. The composite material includes a polymer and inductively-heatable particles, and the flexible support is generally a non-conductive material and includes woven fabrics such as fibrous glass, aramids and polysters (see claims 16 and 17). Claims 34 and 35 are directed to heating components, such as a cooking belt or an industrial sealing belt, including a composite material. The composite material includes silicone polymer and inductively heatable particles. Claim 40 is directed to a system for heating an article including the heating belt of claim 1 and a field generator. Claim 45 is directed to a method for heating an article including placing an article in proximity to the heating belt of claim 1 and inducing a field about the heating belt.

The PTO appears to rely on Erickson or Uemura for disclosure of a heating belt. Erickson is directed to a belt conveyor system and to heating conveyor belts in such systems, and teaches use of load-bearing metal cables to provide the structural backbone of the belt. Uemura is directed to a steel belt extended in a movable state between drums and an induction heating coil set in a state that allows it to shift position in the direction of movement of the belt or across it. Neither Erickson nor Uemura disclose use of induction heatable particles.

In an attempt to address the deficiencies of Erickson and Uemura, the PTO asserts that it would have been obvious to modify the disclosed belts to include inductively heatable particles with polymer material in view of the teachings of Guiles et al. or Stark et al. In this respect, Guiles et al. and Stark et al. teach polymer induction bonding technology and provide for heating of polymeric materials by mixing ferromagnetic particles in the polymer to be heated.

The PTO asserts that the inductively heatable particles of Guiles et al. or Stark et al. would have been added to the belts of Erickson or Uemura for better heating temperature control and more uniform heating results. However, the references nowhere teach or suggest that adding inductively heatable particles to belts that already include metal cables or steel bands provides better heating temperature control or more uniform heating results. That is, the metal cables or steel bands already provide the necessary conductive components for induction heating, and inclusion of a polymer/particle composite would have virtually no effect on temperature control and uniformity. That is, heating control and uniformity are dictated by the design of the Erickson and Uemura belts, each of which incorporates load-bearing metal cables or belts. In addition, one skilled in the art would not have been motivated to add inductively heatable particles to belts that already include induction heating metal cable or steel band designs. At best, it is more likely that one skilled in the art would have merely added or subtracted cables or modified magnetic fields to control temperature or provide more uniform heating.

As stated above, it would not have been obvious to add a polymer/particle composite to the belts of the primary references. In addition, it would not have been obvious to replace the conductive components of Uemura or Erickson with such a composite. Such a replacement would render the belts unsatisfactory for their intended purpose, as the metal cables and steel bands of the respective belts are load carrying components. As stated in Erickson, the conveyor belt is “longitudinally reinforced” with the conductive members (Erickson col. 2, ll. 33-38). The English translation of Uemura refers to the steel bands as forming “a firm-bridging part” (Uemura, see description of drawing 1). Replacement of the metal cables of Erickson or the steel bands of Uemura with inductively heatable particles of Guiles et al. or Stark et al. would remove the load carrying components and render the articles unsatisfactory for use as conveyor belts. In particular, such a modification would result in belts that break under low tension.

For at least the foregoing reasons, Applicants respectfully submit that the presently claimed invention is patentable over Erickson (US 2,839,651) or Uemura (JP 9-215605), in view of Guiles et al. (US 6,056,844) or Stark et al. (US 2002/0113066 A1). Accordingly, reconsideration and withdrawal of the 35 U.S.C. §103(a) rejection is respectfully requested.

3. Claims 10, 15, 34, 35, and 50 were rejected under 35 U.S.C. §103(a) as being unpatentable over Erickson (US 2,839,651) or Uemura (JP 9-215605), in view of Guiles et al. (US 6,056,844) or Stark et al. (US 2002/0113066 A1), and further in view of Kinouchi et al. (US 6,087,641).


Kinouchi et al. disclose a fixing device having a fixing belt formed of a ferromagnetic metallic material. A separation layer for preventing adhesion of a developing agent (toner), for example, a layer of fluororesin, silicone resin or silicone rubber, may be coated on the surface of the fixing belt. The disclosure of Kinouchi et al. fails to overcome the deficiencies of the above combination. Accordingly, reconsideration and withdrawal of the 35 U.S.C. §103(a) rejection in further view of Kinouchi et al. is respectfully requested.

Applicants respectfully submit that the present application is now in condition for allowance. Accordingly, the Examiner is requested to issue a Notice of Allowance for all pending claims. Should the Examiner deem that any further action by the Applicant would be desirable, a call to the Applicant's representative listed below is requested.

The Commissioner is hereby authorized to charge any fees that may be required, or credit any overpayment, to Deposit Account Number 50-2469.

Respectfully submitted,

Date 9/6/05


Jeffrey S. Abel, Reg. No. 36,079
Attorney for Applicant(s)
TOLER, LARSON & ABEL, L.L.P.
5000 Plaza On The Lake, Suite 265
Austin, Texas 78746
(512) 327-5515 (phone)
(512) 327-5452 (fax)